

REMARKS

Applicants have carefully reviewed and considered the Office Action dated November 4, 2008 and the references cited therein. Applicants have amended claims 1, 4, 5 and 7 and cancelled claims 3 and 6 without prejudice. Applicants believe the application is in condition for allowance. Accordingly, favorable reconsideration in light of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-8 stand rejected under 35 U.S.C. § 103 as obvious in view of the combination of Martin (U.S. Patent 5,828,197) and Gilboa (U.S. Patent 6,380,732). Applicants respectfully traverse this rejection.

Martin is the primary reference cited by the Examiner. Martin discloses a force feedback virtual reality system used to provide a user-manipulable object in a virtual reality environment, simulation or video game. The system includes a user manipulable object 12, a mechanical interface 14, an electronic interface 16 and a host computer. The user manipulates the object 12 in space and the position and/or orientation of the object is translated using the mechanical interface 14 into a form suitable for interpretation by sensors of the mechanical interface 14. The sensors track the movement of the object 12 in three dimensional space and provide suitable electronic signals to the electronic interface 16 that, in turn, provides position and/or orientation information to the host computer. The host computer and/or electronic interface can provide force feedback information to actuators coupled to the mechanical interface and the actuators generate forces on members of the mechanical apparatus to provide forces on the object 12.

In terms of sensors, Martin discloses the use of sensors 52 that are coupled to the joints of the linkage. In the illustrated embodiment, the sensors 52 are optical encoders. Martin also teaches that non-contact sensors could be used. Significantly, however, Martin does not teach that the sensors could be used in any location other than at the joints of the linkage or to sense anything other than the positions of the various links relative to each other.

Applicants' amended claim 1 provides a manipulator for use in performing medical procedures on the body of a patient that includes, among other things, a remote position

tracking system capable of tracking the position of the medical tool *and the body of the patient*. Martin does not teach or suggest such a manipulator and remote position tracking system. Martin is a virtual reality system in which a user grasps an object and manipulates it in space. Because it is designed as a virtual reality system, the mechanical interface linkage including the sensors track the movement of the object and provide that information to the host computer. Since it is only concerned with tracking the position of the object being moved by the user and inputting that information into a computer, Martin does not have any need for (and certainly neither teaches nor suggests) the tracking of the position of any component outside of its mechanical interface, let alone the body of a patient.

Applicants' amended claim 1 also recites, among other things, a positioning mechanism and a movable haptic interface. Martin does not teach or suggest a haptic interface that is adapted to receive manually input position information from a user such as in amended claim 1. In Martin, this information is input through the mechanical interface, which is what the Examiner is considering the positioning mechanism. The mechanical interface of Martin cannot be both the claimed positioning mechanism and the claimed haptic interface.

Applicants' amended claim 5 recites, among other things, a remote position tracking system that includes a first remote field sensor carried by the tool and a second remote field sensor carried by the positioning mechanism or the body of the patient. Martin does not teach or suggest directly monitoring the position of the tool. Instead, Martin teaches that the position of the object is sensed by sensing the position of the components of the linkage. Martin also does not teach or suggest a second remote field sensor carried by the positioning mechanism or the body of the patient. Claim 5 also includes the movable haptic interface limitation discussed above in connection with claim 1. Gilboa does not teach any manipulator and thus does not address the deficiencies of Martin.

In sum, neither independent claim 1 nor claim 5 is taught or suggested by the cited references. The dependent claims are allowable for at least the same reasons as the independent claims.

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the

prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'G. C. Bays', is written over a horizontal line.

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